REMARKS/ARGUMENTS

Double Patenting

The Office rejected claims 6 and 8 under 35 USC 101 as claiming the same invention as that of claims 4 and 1 of prior U.S. Pat. No. 6619214. The Applicant agrees and has canceled claims 1-17, thereby mooting these rejections.

35 USC 103: Noland/Loomans

The Office rejected claims 1, 2, and 5 under 35 USC 103(a) as being unpatentable over Noland (Re. 33776) in view of Loomans (US5017269). The Applicant disagrees, but has canceled claims 1-17, thereby mooting these rejections.

Noland and Loomans individually or in combination thereof, fail to teach "a thermal reactor having an inner chamber that carries a waste stream, and an outer chamber that provides heat to the inner chamber to sustain pyrolysis." as currently claimed in independent claim 18

35 USC 103: Jones/Loomans

The Office rejected claim 1 under 35 USC 103(a) as being unpatentable over Jones (US4917023) in view of Loomans. The Applicant disagrees, but has canceled claims 1-17, thereby mooting this rejection.

Jones and Loomans individually or in combination thereof, fail to teach "a thermal reactor having an inner chamber that carries a waste stream, and an outer chamber that provides heat to the inner chamber to sustain pyrolysis," as currently claimed in independent claim 18.

35 USC 103: Jones/Loomans/Loken

The Office rejected claim 4 under 35 USC 103(a) as being unpatentable over Jones in view of Loomans as applied to claim 1, and in further view of Loken (US3954069). The Applicant disagrees, but has canceled claims 1-17, thereby mooting this rejection.

As discussed above, the combination of Jones and Loomans fails to teach the device as currently claimed in independent claim 18. Still further, the combination of Jones, Loomans, and Loken still fails to teach "a thermal reactor having an inner chamber that carries a waste stream,

and an outer chamber that provides heat to the inner chamber to sustain pyrolysis," as currently claimed in independent claim 18.

35 USC 103: Jones/Loomans/Bayer

The Office rejected claims 3 and 7 under 35 USC 103(a) as being unpatentable over Jones in view of Loomans as applied to claim 1, and in further view of Bayer (US5376340). The Applicant disagrees, but has canceled claims 1-17, thereby mooting these rejections.

As discussed above, the combination of Jones and Loomans fails to teach the device as currently claimed in independent claim 18. Moreover, the combination of Jones, Loomans, and Bayer still fails to teach "a thermal reactor having an inner chamber that carries a waste stream, and an outer chamber that provides heat to the inner chamber to sustain pyrolysis," as currently claimed in independent claim 18.

35 USC 103: Jones/Loomans/Bayer/Martin

The Office rejected claim 10 under 35 USC 103(a) as being unpatentable over Jones in view of Loomans and Bayer as applied to claim 7, and in further view of Martin (US5921763). The Applicant disagrees, but has canceled claims 1-17, thereby mooting this rejection.

As discussed above, the combination of Jones, Loomans, and Bayer fails to teach the device as currently claimed in independent claim 18. Moreover, the combination of Jones, Loomans, Bayer, and Martin still fails to teach "a thermal reactor having an inner chamber that carries a waste stream, and an outer chamber that provides heat to the inner chamber to sustain pyrolysis," as currently claimed in independent claim 18.

35 USC 103: Jones/Loomans/Sardari

The Office rejected claim 9 under 35 USC 103(a) as being unpatentable over Jones in view of Loomans as applied to claim 1, and in further view of Sardari (US5088424). The Applicant disagrees, but has canceled claims 1-17, thereby mooting this rejection.

As discussed above, the combination of Jones and Loomans fails to teach the device as currently claimed in independent claim 18. Moreover, the combination of Jones, Loomans, and Sardari still fails to teach "a thermal reactor having an inner chamber that carries a waste stream, and an outer chamber that provides heat to the inner chamber to sustain pyrolysis," as currently claimed in independent claim 18.

35 USC 103: Noland/Loomans/Bayer/Loken

The Office rejected claim 11 and 12 under 35 USC 103(a) as being unpatentable over Noland in view of Loomans and Bayer and Loken. The Applicant disagrees, but has canceled claims 1-17, thereby mooting these rejections.

The combination of Noland, Loomans, Bayer, and Loken fails to teach "a thermal reactor having an inner chamber that carries a stream of waste, and an outer chamber that provides heat to the inner chamber to sustain pyrolysis," as currently claimed in independent claim 18.

Additional Prior Art That Was Not Cited By The Office

US5411714 to Wu discloses a pyrolysis system having (1) a thermal reactor (i.e. pyrolysis transport pipe 62); (2) a first conveyor (i.e. waste transport auger 68); and (3) a thermal oxidizer (i.e. furnace space 88) that burns gases derived from the thermal reactor. However, Wu fails to teach, *inter alia*, (1) a thermal reactor having an inner and outer chamber, and (2) a thermal oxidizer that produces exhaust gases that are vented to the outer chamber of the thermal reactor.

Similarly, US4084521 to Herbold teaches a pyrolysis system having (1) a thermal reactor (i.e. reactor tube 12); (2) a first conveyor (i.e. rotatably mounted shaft 14); and (3) a thermal oxidizer (i.e. annular jacket 28 / heating chamber 30) that burns gases derived from the thermal reactor. However, Herbold like Wu fails to teach, *inter alia*, (1) a thermal reactor having an inner and outer chamber, and (2) a thermal oxidizer that produces exhaust gases that are vented to the outer chamber of the thermal reactor.

Request For Allowance

Claims 18-29 are pending in this application. The applicant requests allowance of all pending claims.

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Respectfully submitted,

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